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SEQUENCE LISTING

<110> BIOPROTEIN TECHNOLOGIES

<120> PREPARATION OF RECOMBINANT ROTAVIRUS PROTEINS IN MILK OF
TRANSGENIC NON-HUMAN MAMMALS

<130> D21684

<150> EP 04/290 589

<151> 2004-03-04

<160> 23

<170> PatentIn version 3.3

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<212> DNA

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<223> VP2 strain RF open reading frame

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<210> 6

<211> 2797

<212> DNA

<213> Artificial sequence

<220>

<223> VP2 strain RF open reading frame, modified sequence

and with signal peptide

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<210> 7
 <211> 783
 <212> DNA
 <213> Porcine rotavirus

<220>
 <223> VP4 gene for capsid protein, partial cds

<400> 7

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gactccacaa	ctgtcaagcc	attattagat	ggtccggacc	aaccaaccac	tttcaacca	180
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<210> 8

<211> 799

<212> DNA

<213> Human rotavirus

<220>

<223> P1B VP4 gene, partial cds

<400> 8

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acgtagtgtc	attatctcta	tcattccagat	ctattcaata	taggagagca	caagttaatg	720
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<210> 9

<211> 875

<212> DNA

<213> Human rotavirus

<220>

<223> P3 truncated VP4 protein gene, partial cds

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<210> 10
 <211> 1194
 <212> DNA
 <213> rotavirus

<220>
 <223> VP6 strain RF open reading frame

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<210> 11
 <211> 1194
 <212> DNA
 <213> Artificial sequence

<220>
 <223> VP6 strain RF open reading frame, modified sequence

<400> 11						
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<210> 12

<211> 1194

<212> DNA

<213> Artificial sequence

<220>

<223> VP6 strain RF open reading frame, modified sequence

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<210> 13

<211> 1194

<212> DNA

<213> Artificial sequence

<220>

<223> VP6 strain RF open reading frame, modified sequence

<400> 13

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<210> 14
 <211> 1194
 <212> DNA
 <213> Artificial sequence

<220>
 <223> VP6 strain RF open reading frame, modified sequence

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gctgacggag cgactacatg gtacttcaat ccagtgattc ttagaccaa taacgttgaa 780
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atagctagaa attttgatac aattagattg tcatttcagt tgatgagacc accaaatag 900
acaccagcgg tagcggcggt atttccaaat ggcagccat ttgaacatca cgcaacagta 960
ggactcacgc ttagaattga atctgcagtt tgtgaatcag tacttgccga cgcaagcgaa 1020
acaatgctag cacaagtgc atctgttaga caagaatacg cgataccagt tggaccagtt 1080
tttccaccag gtatgcagtg gactgatttg atcactaact attcaccatc tagagaggat 1140
aacttgacgc gtgtatttac agtggcttcc attagaagca tgcttgtcaa atga 1194

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<210> 15
 <211> 1194
 <212> DNA
 <213> Artificial sequence

<220>
 <223> VP6 strain RF open reading frame, modified sequence

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<400> 15
atggatgtcc tgtactcctt gtcaaaaact cttaaagatg ctagagacaa aattgtcgaa 60
ggcacattat actcccaagt cagtgatcta attcaacaat ttaatcaaat gataattact 120
atgaatggaa atgagttcca aactggagga attggtaatc taccgattag aaattggaat 180
tttgattttg gattacttgg aacaactcta cttaaattag atgctaacta cgtcgaaacg 240
gcccgcata caattgatta tttttagat ttttagata atgtatgtat ggacgaaatg 300
gtagagaat cacaagaaa tggaattgca ccacaatcag attcacttat aaagttatca 360
ggcattaaat ttaaaagaat aaattttgac cagtcacag aatacataga gaactggaat 420
ttgcaaaata gaagacaaa aacgggtttt acatttcata aaccaaacat tttcccttat 480
tcagcttcat tcacgttgaa cagatcacaa cccgctcatg ataactgat gggtacgatg 540
tggtcfaatg cgggacaga aattcaggtc gctggattcg actactcatg tgcaataaac 600
gcgccagcta atacgcaaca atttgagcat attgtacagc ttccaagggt gttgactaca 660
gctacaataa ctcttttacc agatgcagaa agatttagtt ttccaagagt gattacttca 720

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gctgacggag cgactacatg gtacttcaat ccagtgattc ttagaccaa taacgttgaa 780
atagagtttc tactaaacgg gcagataata aatacttacc aagcaagatt tggaacgac 840
atagctagaa attttgatac aattagattg tcatttcagt tgatgagacc accaaatatg 900
acaccagcgg tagcggcggtt atttccaaat gcgcagccat ttgaacatca cgcaacagta 960
ggactcacgc ttagaattga atctgcagtt tgtgaatcag tacttgccga cgcaagcgaa 1020
acaatgctag cacaagtga atctgttaga caagaatacg cgataccagt tggaccagtt 1080
tttccaccag gtatgcagtg gactgatttg atcactaact attcaccatc tagagaggat 1140
aacttgacgc gtgtatttac agtggcttcc attagaagca tgcttgctca atga 1194

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<210> 16
 <211> 1348
 <212> DNA
 <213> Artificial sequence

<220>
 <223> VP6 strain RF open reading frame, modified sequence,
 with signal peptide

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<400> 16
gcgcgcggat cccaaggccc aactccccga accactcagg gtccctgtgga cagctcacct 60
agccgccatg gctccaggct cccggacgtc cctgctcctg gcttttgccc tgctctgcct 120
gccctggctt caggaggctg gcgcgcgtgat ggatgtcctg tactccctct caaaaactct 180
taaagatgct agagacaaaa ttgtcgaaag cacactgtac tcccaagtca gtgatctcat 240
tcagcagttt aatcagatga ttattactat gaatggcaat gagttccaga ctggaggcat 300
tggcaatctc cccattagaa attggaattt tgattttgga ctccctggaa caactctgct 360
caatctggat gctaactacg tcgaaacggc ccgcaataca attgattatt ttgtcgattt 420
tgtggataat gtctgtatgg acgaaatggt tagagaatca cagagaaatg gcattgcacc 480
acagtccagat tcacttatca agctctcagg cattaaattc aaacgcatta attttgacca 540
gtcatcagaa tacatcgaga actggaatct gcaaaataga agacagagaa cgggattcac 600
atttcataaa ccaaacattt tcccttattc cgcttccttc acgctccagc gctcacagcc 660
cgctcatgat aacctgatgg gcacgatgtg gctcaatgct ggctcagaaa tccaggtcgc 720
tggattcgac tactcatgtg caattaacgc cccagctaata acgcagcagt ttgagcatat 780
tgtgcagctt agaagggtgc tcactacagc tacaatcact cttctgccag atgcagaaag 840
attcagtttt cccagagtga ttacttcagc tgacggagct actacatggt acttcaatcc 900
agtgattcct agaccaaata acgttgaaat tgagtttctg ctcaacggac agatcattaa 960
tacttaaccag gcaagatttg gaacgatcat cgtagaaat ttgtatacaa ttgactgtc 1020
atttcagctc atgagaccac caaacatgac accagccgtc gctgccctct ttccaaatgc 1080
tcagccattt gaacatcacg caacagtggg actcacgctt agaattgaat cagcagtggt 1140
tgaatcagtc cttgccgacg caagcgaaac aatgctggca caagtgcacat ctgttagaca 1200
ggaatacgcc attccagttg gaccagtttt tccaccagga atgcagtgga ctgatctgat 1260
cactaaactat tcaccatcta gagaggataa cctccagcgc gtgtttacag tggcatccat 1320
tcgcagcatg cttgtcaaat gagcgcgc

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<210> 17
 <211> 1061
 <212> DNA
 <213> Human rotavirus

<220>
 <223> G9 strain 97CM113 outer capsid protein (VP7)

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<400> 17
ggcttttaaaa gagagaattt ccgtctggct agcggttatt tccttttaaat gtatggtatt 60
gaatatacca caattctaac ctttctgata tcaatagttt tattgaacta tatattaaaa 120
tcactaacta gtgcgatgga cttcataatt tatagatttc ttttacttat tgttattgca 180
tcaccttttg ttaaaacaca aaattatgga attaatctac cgatcactgg ctccatggat 240
acagcatatg caaattcatc acagcaagaa acatttttga cttcaacgct atgcttatat 300
tatcctacag aagcgtcaac tcaaatgga gatacggaat ggaaggatac tctgtcccaa 360
ttattcttga ctaaaagggtg gccaaactgga tcagtcctatt ttaaagaata caccgatatc 420

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gcttcattct caattgatcc gcaactttat tgtgattata atgttgact gatgaagtat 480
gattcaacgt tagagctaga tatgtctgaa ttagctgatt taattctaaa tgaatgggta 540
tgtaacccaa tggatataac attatattat tatcagcaaa cagatgaagc gaataaatgg 600
atatcgatgg gacagtcttg taccataaaa gtatgtccat tgaatacgca gactttagga 660
ataggttgta ttaccacaaa tacagcgaca tttgaagagg tggctacaag tgaaaaatta 720
gtaataaccg atgttggtga tgggtgtgaac cataaacttg atgtgactac aaatacctgt 780
acaattagga attgtaagaa gttgggacca agagaaaatg tagcgattat acaagtcggt 840
ggctcagatg tgttagatat tacagcggat ccaactactg caccacaaac tgaacgtatg 900
atgcgagtaa attggaagaa atggtggcaa gttttctata cagtagtaga ttatattaat 960
cagattgtgc aagttatgtc caaaagatca cggtcattaa attcagcagc tttttactat 1020
agggtttgat atatcttaga ttagaattgt atgatgtgac c 1061

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<210> 18

<211> 1062

<212> DNA

<213> Human rotavirus

<220>

<223> G9 strain 02-22 capsid protein VP7 gene

<400> 18

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ggctttaaaa gagagaattt ccgtctggct agcgggttagc tccttttaat gtatgggtatt 60
gaatatacca caattctaac ctttctgata tcaatagttt tattgaacta tatattaaaa 120
tcactaacta gtgcgatgga ctttataatt tatagatttc ttttacttat tgttattgca 180
tcatcttttg ttaaaacaca aaattatgga attaatttac cgatcactgg ctccatggat 240
acagcatatg caaattcatc acagcaagaa acatttttga cttcaacgct atgcttatat 300
tatcctacag aagcatcaac tcaaattgga gatacggaat ggaaggatac tctgtcccaa 360
ttattcttga ctaaaagggtg gccaaactgga tcagtctatt ttaaagaata cactgatatc 420
gcttcattct caattgatcc acaactttat tgtgattata atgttgact gatgaagtat 480
gattcaacgt tagagctaga tatgtctgaa ttagctgatt taattctaaa tgaatgggta 540
tgtaacccaa tggatataac attatattat tatcagcaaa cagatgaagc gaataaatgg 600
atatcgatgg gacagtcttg taccataaaa gtatgtccat tgaatacgca gactttagga 660
ataggttgta ttaccacaaa tacagcgaca tttgaagagg tggctacaag tgaaaaatta 720
gtaataaccg atgttggtga tgggtgtgaac cataaacttg atgtgactac aaatacctgt 780
acaattagga attgtaagaa gttaggacca agagaaaatg tagcgattat acaagtcggt 840
ggctcagatg tgttagatat tacagcggat ccaactactg caccacaaac tgaacgtatg 900
atgcgagtaa attggaagaa atggtggcaa gttttctata cggtagtaga ttatattaat 960
cagattgtgc aagttatgtc caaaagatca cggtcattaa attcagcagc tttttactat 1020
agggtttgat atatcttagg ttagaattgt atgatgtgac ca 1062

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<210> 19

<211> 1062

<212> DNA

<213> Human rotavirus

<220>

<223> G3 strain MaCH09004 outer capsid protein (VP7) gene, complete cds

<400> 19

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ggctttaaaa gagagaattt ccgtctggct agcgggttagc tccttttaat gtatgggtatt 60
gaatatacca cagtttttaac ctttttgata tcagttatat tgttgaatta cgtactcaaa 120
tccttaacta gaataatgga ctttattatt tacagatttc ttttaattat agttatatta 180
tcaccactcc ttaatgcaca aaattatgga ataaatcttc cgattactgg ctcaatggac 240
acaccatata cgaactcaac gcgagaggaa gtattcctaa cttcgacttt atgtttgtat 300
tacccaactg aagcagcaac agaaataaat gataattcat ggaaggatac actttctcag 360
ctatttttaa tcaaaggatg gccaacagga tctattttatt ttaaagatta tactgatatt 420
gcctcgtttt cagtcgatcc acaactgtat tgtgattata atttggtatt aatgaaatat 480
gacgctacac tgcaactgga catgtccgaa ctagcagatt tgttacttaa tgagtgggta 540

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tgtaatccta	tggaattac	tttgattat	tatcaacaaa	ctgatgaggc	aaacaaatgy	600
atttcaatgg	gatcatcttg	tactataaag	gtatgtccac	taaatacgca	aacattagga	660
attgggtgtc	taacaactga	tacaacacag	tttgaagaag	ttgcaacagc	tgaaaaatta	720
gtgattactg	acgttgtaga	tggaagtcaat	cataaattga	acgtgacaac	aaacacttgt	780
acgattcgaa	attgtaagaa	attaggacca	agggaaaacg	tagcagttat	acaggtaggt	840
ggcccagatg	tgcttgacat	aacagctgat	ccaacgacaa	tgccacaaac	agaagaatg	900
atgcgagtga	attggaagaa	atgggtggcaa	gtgttttata	caatagttga	ctacgtgaat	960
caaattgtgc	aagcaatgtc	caaaagatcg	agatcattaa	attctgctgc	attttactac	1020
agagtataga	tatagcttag	attagaattg	tatgatgtga	cc		1062

<210> 20

<211> 981

<212> DNA

<213> Human rotavirus

<220>

<223> G12 VP7 gene for capsid protein, complete cds

<400> 20

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tatatattaa	aatacaatac	taataataatg	gacttttatca	tatatcggtt	tttactaata	120
gttggtgtca	tgctgccatt	tattaaagct	caaaattatg	gaataaatct	tccaataaca	180
ggttctatgg	ataccgcata	tacaaactcc	acacaacaag	agaattttat	gacttccact	240
ttatgcttat	attatccaag	ttcagtcacg	actgaaataa	ctgacccoga	ttggacgaac	300
acactgtcac	aacttttcat	gactaaagga	tgcccgacaa	attccgtcta	cttcaagagt	360
tatgctgata	tagcgtcctt	ctctgtagat	ccgcagttat	attgtgatta	caatattgtg	420
ttagtacagt	acaaaaattc	attagcggtg	gatgtctcag	aacttgctga	tttaatttta	480
aatgaatggt	tatgtaatcc	gatggacgta	acgttggtact	attatcaaca	aacagatgaa	540
gcgaataaat	ggatatcaat	gggagaatca	tgtacgggta	aagtatgtcc	cttaaatatg	600
caaacttttag	gaattggatg	tacaacaacc	gacgtcacaa	catttgaaga	ggtagcaaac	660
gcggaaaaaat	tagtaataac	tgacgtcggtg	gatggagtca	atcacaagat	taataattaca	720
atgaatacat	gtactatacg	gaattgcaaa	aagttaggac	cgagggaaa	tgtagcaatt	780
atacaagtag	gtggttctga	cgtcatagac	ataacagcag	atccaacaac	gatccacaa	840
actgaaagaa	tgatgcgaat	aaattggaaa	aaatgggtggc	aggtgtttta	taccgtagta	900
gattacataa	atcaaatagt	tcaggtaatg	tccaaacgat	caagatcact	aaattcagct	960
gctttttact	acagaattta	g				981

<210> 21

<211> 1062

<212> DNA

<213> Human rotavirus

<220>

<223> G3 strain MaCH09404 outer capsid protein (VP7) gene, complete cds

<400> 21

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gaatataacca	cagtttttaac	cttttttgata	tcagttatat	tggtgaatta	cgtactcaaa	120
tccttaacta	gaataatgga	ctttattatt	tacagatttc	ttttaattat	agttatatta	180
tcaccactcc	ttaatgcaca	aaattatgga	ataaatcttc	cgattactgg	ctcaatggac	240
acaccatata	cgaactcaac	gcgagaggaa	gtatttcctaa	cttcgacttt	atgtttgtat	300
ttcccaactg	aagcagcaac	agaaataaat	gataattcat	ggaaggatac	actttctcag	360
ctatttttaa	tcaaaggatg	gccaacagga	tctattttat	ttaaagatta	tactgatatt	420
gcctcgtttt	cagtcgatcc	acaactgtat	tgtgattata	atttggtatt	aatgaaatat	480
gacgctacac	tgcaactgga	catgtccgaa	ctagcagatt	tgttacttaa	tgagtgggta	540
tgtaatccta	tggaattac	tttgattat	tatcaacaaa	ctgatgaggc	aaataaatg	600
atttcaatgg	gatcatcttg	tactataaag	gtatgtccac	taaatacgca	aacattagga	660

attgggtgtc	taacaactga	tacaaacacg	tttgaagaag	ttgcaacagc	tgaaaaatta	720
gtgattactg	acgtttgtaga	tggagtcatt	cataaattga	acgtgacaac	aaacacttgt	780
acgattagaa	attgtaagaa	attaggacca	agggaaaacg	tagcagttat	acaggtaggt	840
ggcccagatg	tgcttgacat	aacagctgat	ccaacgacaa	tgccacaaac	agaaagaatg	900
atgcgagtga	attggaagaa	atggtggcaa	gtgttttata	caatagtga	ctacgtgaat	960
caaattgtgc	aagcaatgtc	caaaagatcg	agatcattaa	attctgctgc	attttactac	1020
agagtataga	tatagcttag	attagaattg	tatgatgtga	cc		1062

<210> 22

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> HIV epitope

<400> 22

Arg Thr Pro Lys Ile Gln Val
1 5

<210> 23

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> HIV epitope

<400> 23

Glu Leu Asp Lys Trp Ala
1 5

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